

WHAT IS CLAIMED IS:

1. A chuck system for supporting a semiconductor wafer, comprising:
a chuck platform for supporting the semiconductor wafer; and
a lift structure movably coupled with the chuck platform to receive the semiconductor wafer, including
a lift base, and
at least one lift pin removably coupled with the lift base, the lift pin having two ends with a first end removably coupled to the lift base and a second end for supporting the semiconductor wafer during lifting operation of the lift structure.
2. The chuck system as claimed in claim 1, wherein the first end of the lift pin is threaded and the lift base having a threaded hole for receiving the first end of the lift pin.
3. The chuck system as claimed in claim 1 further comprising a bolt, wherein the first end of the lift pin is threaded and the bolt removably couples the lift pin with the lift base through an opening provided by the lift base.
4. The chuck system as claimed in claim 1, wherein the lift structure comprises a plurality of lift pins coupled to the lift base.

LAW OFFICES

INNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

5. The chuck system as claimed in claim 1, wherein the lift pin is made of a conductive material.

6. The chuck system as claimed in claim 1, wherein the chuck system is an electrostatic chuck system.

7. The chuck system as claimed in claim 1, wherein the lift pin is conductively coupled to an electrically grounded end when the lift structure moves to lift the semiconductor wafer away from the chuck platform.

8. The chuck system as claimed in claim 1, wherein the lift pin is conductively coupled to an electrically grounded end when the lift structure receives the semiconductor wafer to place the wafer on the chuck platform.

9. The chuck system as claimed in claim 1, wherein the lift base is substantially flat and provides a least one opening for receiving the at least one lift pin.

10. A chuck system for supporting a semiconductor wafer, comprising:
a chuck platform for providing support of the semiconductor wafer;
a lift structure movably coupled with the chuck platform for supporting the semiconductor wafer to receive or place the semiconductor wafer on the chuck platform or to lift the wafer away from the chuck platform, the lift structure including

a lift pin, and

a lift base for supporting the lift pin,

wherein the lift pin has two ends, the lift pin being
removably coupled with the lift base, a first end of the lift pin being connected with the
lift base, and a second end of the lift pin supporting the semiconductor wafer during
lifting or placing operation of the lift structure, and

wherein the lift structure has an external thread on the first
end of the lift pin and a matching internal thread in a hole provided by the lift base to
removably couple the lift pin and the lift base.

11. The chuck system as claimed in claim 10, wherein the lift structure has a
plurality of lift pins coupled to the lift base.

12. The chuck system as claimed in claim 10, wherein the lift pin is made of a
conductive material.

13. The chuck system as claimed in claim 10, wherein the chuck system is an
electrostatic chuck system.

14. The chuck system as claimed in claim 10, wherein the lift pin is
conductively coupled to an electrically grounded end when the lift structure moves to lift
the wafer away from the chuck platform.

15. The chuck system as claimed in claim 10, wherein the lift pin is conductively coupled to an electrically grounded end when the lift structure receives the wafer to place the wafer on the chuck platform.

16. The chuck system as claimed in claim 10 further comprising a bolt, wherein the first end of the lift pin is threaded and the bolt removably couples the lift pin with the lift base.

17. A method of maintaining a lift structure of a chuck system that supports a semiconductor wafer, comprising:

providing a removable first lift pin to a lift base in the lift structure;

removing the first lift pin from the lift base with the lift structure being coupled to the chuck system; and

mounting a second lift pin to the lift base with the lift structure being coupled to the chuck system.

18. The method of maintaining the lift structure as claimed in claim 17, wherein the first lift pin is removed from and the second lift pin is mounted to a same lift base with the same lift base being coupled to the lift structure.

LAW OFFICES

NNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000